

# ABSTRACT OF THE DISCLOSURE

Output light spectrum  $P2(\lambda)$  data from an optical amplifier and input light spectrum  $P1(\lambda)$  data of signal light are prepared, the difference between the  $P2(\lambda)$  and a value obtained by multiplying the  $P1(\lambda)$  by a provisional gain  $GT$  is determined (Steps S232), for the obtained spectrum data, a noise removing process such as a moving average process and the like is performed and then, a spline interpolation process is also performed, whereby ASE light spectrum  $P3(\lambda)$  data is prepared and an ASE light level  $P_{ASE}$  is determined (Steps S233 through S235). In addition, a noise figure-measuring device 10 calculates the number of channels of WDM light and signal light wavelengths of the respective channels based on the  $P1(\lambda)$  or  $P2(\lambda)$ , and performs analysis to calculate a noise figure  $NF$  and the like of an appointed wavelength range around the center of each wavelength thus calculated.